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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,990

05/04/2005

Andreas Wunderlich

040085.00004

2585

23598 7590 04/18/2008  
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EXAMINER

REESE, DAVID C

ART UNIT

PAPER NUMBER

3677

NOTIFICATION DATE

DELIVERY MODE

04/18/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@boylefred.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,990	<b>Applicant(s)</b> WUNDERLICH, ANDREAS	
	<b>Examiner</b> David C. Reese	<b>Art Unit</b> 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/13/2008 has been entered. Consequently, the following is the current listing of claims in the instant application:

### ***Status of Claims***

- Claims 1, 6-8, 11, and 13-14 were amended.
- Claims 1-14 are pending.

### ***Drawings***

[1] The drawing(s) were previously objected for informalities. In view of Applicant's remarks submitted on 3/13/2008, all previous objection(s) to the drawings have not been withdrawn. The applicant argues that sawteeth would be too small to be illustrated in Fig. 1. This is not persuasive, and for the examiner to withdraw the instant objection to the drawings "the notches disposed between the cutting teeth that do not extend all the way down to the shaft of the screw" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Further, as noted by the previous examiner, the center line of the threads is new matter per below and must be deleted from the drawings. And lastly, with regard to the direction "V", it is noted by the current examiner that it is supported by the original disclosure on page 6 and no correction is necessary.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

[2] The disclosure was previously objected to for informalities. Applicant has failed to successfully address these issues in the amendment filed on 3/13/2008. Accordingly, the objection(s) to the specification have not been withdrawn. In the original disclosure of the instant invention, the leading edge 6 of every tooth 7 was described as lying "on a line passing through the centerline of the sectioned partial view, i.e., through the screw's longitudinal axis 8". With the instant amendment to the specification, however, it is stated of “the teeth having equal but opposite sides alternately offset to opposite sides of a longitudinal centerline of the thread”. This is where the discrepancy lies, as the original disclosure articulates of the centerline being

the screw's longitudinal axis; while the amendment speaks of the centerline being through the thread. Structurally speaking, the longitudinal axis of the screw is different from that of a longitudinal axis of a thread. Thus, the current examiner of record maintains the objection to the specification regarding the issue of new matter and asks applicants cooperation in changing the terminology (both in the claims and specification) to reflect that found in the originally filed disclosure.

***Claim Objections***

[3] Claims 1, 6 and 13-15 were previously objected to because of informalities. Applicant has successfully addressed these issues in the amendment filed on 3/13/2008. Accordingly, the objection(s) to the claims have been withdrawn.

***Claim Rejections - 35 USC § 112***

[4] Applicant has failed to successfully address all rejections under 35 USC § 112 to the Claims in the amendment filed 3/13/2008. Accordingly, the Examiner has not withdrawn the 35 USC § 112 rejections. The current examiner maintains the previously articulated 112, first paragraph, rejections to claims 1-14. See page 7, sections 6 and 7, of the prior Office action mailed 09/14/2007. More specifically, there was no original disclosure of a thread longitudinal centerline, and thus no disclosure of teeth alternatively offset to opposite sides of such a center line. It was not shown in the original drawings, (see above), or described in the original specification or claims (see above). Therefore, claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the

application was filed, had possession of the claimed invention. The 35 USC §112 first paragraph rejections to claims 1-14 as indicated on page 7, sections 6 and 7, of the prior Office action, are incorporated herein by reference.

In addition, the following 112 second paragraph rejections to claims 1-14 as indicated on pages 7 through 9, sections 8 and 9, in the prior Office action, and are still maintained by the current examiner of record. The 35 USC §112 second paragraph rejections to claims 1-14 indicated on pages 7 through 9, sections 8 and 9, in the prior Office action, are incorporated herein by reference.

More specifically, with regard to claim 8, it is unclear to the examiner as to how cutting teeth can be formed along the longitudinal centerline of the thread, when in depending claim 1, the cutting teeth are claimed as being alternatively offset to opposite sides of a longitudinal centerline of the thread.

Further, in claim 10, it is apparent to the examiner that the applicant intends for the notches to be claimed as being "within" the cutting teeth instead of "between" the cutting teeth.

In claim 12, the transition zone still lacks antecedent basis. And also, the sides of the thread are claimed, but only "sides of the longitudinal axis and sides of cutting teeth have been described, so there is a lack of antecedent basis.

Again, in view of all the above rejections and objections, the examiner asks the applicant's cooperation in correcting and/or maintaining the above issues as well as other similar problems.

***Claim Rejections - 35 USC § 102***

[5] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[6] As best understood, claims 1-9 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Auger, EP 0501860.

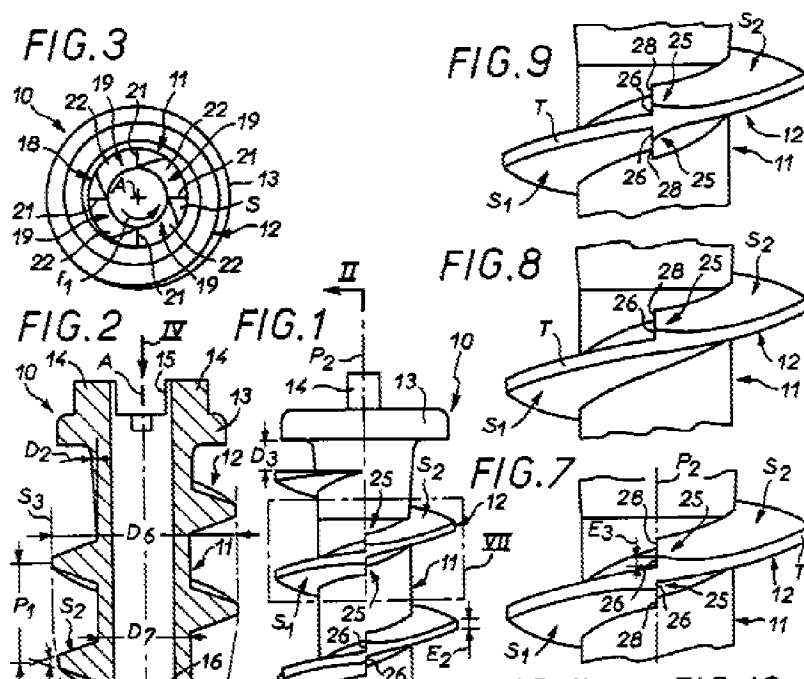
Examiner is very unsure of what is being claimed, but as best understood, Auger teaches in the Figures and abstract a screw capable for use on hard materials, with a shaft, head at one end, tip, and a thread with cutting teeth having equal but opposite sides that are laterally offset to opposite sides of the thread's longitudinal centerline. (see new matter above). There are a series of cutting teeth formed along at least one half turn of the thread—the series is formed by considering multiple half turns to include multiple teeth. As best understood, noting that paragraph [0008] is the only disclosure of a sawtooth, examiner considers Auger Fig 1 to be a sawtooth profile, with teeth disposed to opposite sides of the longitudinal centerline (see new matter above).

The thread has a flattened crest forming a narrow face (T) with edges 28 extending across it, and there are a plurality of narrow faces along at least one half turn – the plurality is along several turns, which are at least one half turn, and there are cutting edges. The transverse leading edges on at least one side are roughly radially disposed and extend all the way down to the shaft (Fig 10, and Fig 6, not copied, best shows this). The thread has the alternating offset of the cutting teeth providing alternating protrusions and notches along sides of the threads (Figures, esp. 8,5,10) The teeth are along a longitudinal centerline of the thread and have leading edges as

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described, and the figures show cutting teeth edges disposed along radii all the way down to the screw shaft. (Figures). The included angle between sides S1 and S2 of the thread are in a range of 20-30 degrees at the portion due to penetrate the drilled hole wall. The included angle between sides S1 and S2 of the thread are in a range of 45 to 60 degrees over the transition zone immediately adjoining the shaft. Fig 7 and 8 show the teeth (on upper vs lower sides) offset from one another by the width of their face. The set of teeth vary over the shaft length- some are on one side, some are on the other, some have "double" teeth (fig 9 and 7), which is varied.

EP 0 501 860 A1



[7] As best understood, Claims 10 are rejected under 35 U.S.C. 103(a) as obvious over Auger in view of Gerhard USP 6086302.

Re claim 10: As noted, examiner is not sure how a notch is formed between the teeth, and where it is shown as between the teeth, but notes that Fig 10 in Auger shows notches 26. However, they extend all the way down to the screw shaft. Gerhard shows a self tapping



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concrete screw, with notches that do not extend all the way to the shaft between cutting teeth.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Auger and Gerhard before him at the time the invention was made, to modify Auger as taught by Gerhard to include the teeth with notches that do not extend to the shaft, in order to obtain a screw thread with sufficient strength and rigidity at the base of the threads at the shaft, and teeth that are well connected and supported and less likely to snap off when in use. One would have been motivated to make such a combination because a strong insertable screw would have been obtained.

[8] As best understood, Claims 11-12 are rejected under 35 U.S.C. 102(b) as anticipated by Auger or, in the alternative, under 35 U.S.C. 103(a) as obvious over Auger in view of Leitold DE 4419988.

Re claims 11-12: As discussed above, examiner believes claims 11-12 are fully anticipated by Auger, especially in view of the “around” wording of the ranges. However, if it is held that Auger does not fully anticipate the ranges, Leitold teaches a similar threaded screw with projections on the thread forming teeth. Further, Leitold teaches that included angle between sides S1 and S2 of the thread are in a range of around 20-30 degrees at the portion due to penetrate the drilled hole wall in the Figures and translated abstract, and teaches that the included angle between sides S1 and S2 of the thread are in a range of around 45 to 60 degrees over the transition zone immediately adjoining the shaft, also in the abstract and Figures.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Auger and Leitold before him at the time the invention was made, to modify Auger as taught by Leitold to include the angle ranges of Leitold, in order to obtain a screw thread with sufficient

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strength and rigidity at the base of the threads at the shaft, while providing a cutting/insertion edge that can be inserted into a bore without difficulty. One would have been motivated to make such a combination because a strong insertable screw would have been obtained.

### ***Response to Arguments***

[9] Note that several of the responses appear to be supported by new matter, per above.

[10] Applicant believes Auger does not have teeth that form "a series of cutting teeth within one half turn of the screw thread". Again, this is not claimed – claim 1 clearly claims "at least one half turn of the thread". The entire thread can be considered as being inclusive of "at least one half turn of the thread", so therefore, the current examiner maintains the applicability of Auger to the claim.

### ***Conclusion***

[11] **THIS ACTION IS NON-FINAL**

[12] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Reese whose telephone number is (571) 272-7082. The examiner can normally be reached on 7:30 am-6:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Sandy can be reached at (571) 272-7073. The fax number for the organization where this application or proceeding is assigned is the following: (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Reese

/D. C. R./

Examiner, Art Unit 3677

/Robert J. Sandy/

Primary Examiner, Art Unit 3677

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